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Education Scotland

One Effect of Climate Change Myths: Solution Denial

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In my previous blog, I briefly reviewed the many myths that climate science deniers have propagated over the past several decades and stated, “Now, with compelling evidence from around the world of unacceptable damage from climate warming, the most pernicious myth of all has emerged: the costs of preventing future catastrophic warming will be more painful than the cost of suffering global warming.” This myth is a form of solutions denial. The promoters of this myth are saying we cannot reduce greenhouse gas emissions because doing so will wreck the world’s economy.

Some of those who assert this myth do accept the science of climate change and do suggest alternative recommendations for how society might deal with catastrophic global heating ... solutions that fall short of reducing emissions. I describe their alternative policy suggestions here and argue that it amounts to urging society to swallow a policy pill that will be toxic to civilization. In a subsequent blog I will describe how reducing emissions, if done wisely, would actually benefit, not harm, the economic well being of humanity, and in fact would do so even if the climate weren’t dangerously overheating.

If you agree with the consensus view of scientists that unmitigated planetary heating would be a disaster to our current society, and yet believe that the option of reducing greenhouse gas emissions is unattainable, you have only two options. One is to fix the climate without reducing greenhouse gas emissions, and the other is to fix society so that it can tolerate the consequences of a warmer climate. The first might be achieved either by geoengineering the climate or pulling carbon dioxide out of the atmosphere, the second by adaptation. Let’s look at these options.

Geoengineering the climate could in principle be done by reflecting away some of the sunlight before it heats Earth (little mirrors) or by absorbing sunlight high in the atmosphere (with some kind of smoke) rather than letting it be absorbed closer to the surface, as now occurs. Neither of these strategies deals with the increasing acidification of

the oceans, which will continue to happen as long as carbon dioxide levels in the atmosphere keep rising, and it doesn't take rocket science to see that we would be expending a great deal of money to shoot smoke and/or mirrors into the upper atmosphere on a recurring basis. Moreover, because climate change is a complex array of phenomena, including changing the water cycle, the wind, the humidity, as well as the temperature, and doing all of that in a way that varies a great deal from place to place on Earth, it is no exaggeration to say that we are in the dark about how reducing the sunlight could conceivably compensate correctly for the climatic effects of greenhouse gases. As a dramatic example of the risk of geoengineering, aerosol matter placed high over the mid-latitudes could cause cooling in the temperate zone, whereas the same material drifting up to the high latitudes could warm the polar regions.

Adaptation is a strategy that appears to be taken more seriously than geoengineering today. Two questions arise: to what climate will we adapt, and how will we do it? The former is curiously never discussed in the adaptationist literature. Do we build storm barriers that protect our coastline cities against increasingly extreme storm events for a one-half meter higher sea level in a 2° C warmer planet or one-meter higher sea level in a 4° C warmer planet. Why stop there: 8° C warmer, ten-meter higher seas. And even if we choose a target to adapt to, how do we do it? How does humanity adapt to the loss of mountain snowpack that provides agriculture with about half its irrigation water? How do we adapt the other two thirds of food-producing land to persistent drought? Or to crop-destroying storms? Do we turn to desalination? Not only would that hugely increase fossil fuel consumption but cost estimates for desalination on such a scale would be well above the cost of replacing coal and gas power with renewables and efficiency and thereby preventing the need for desalination.

To this observer, humanity appears poised on the edge of a giant self deception: that we can adapt to global heating. It is certainly possible that if we can restrict warming to be no more than than 2° C, we could ameliorate some of the harmful effects of that level of warming by making changes in the way society operates. In fact, we must learn how to do that because a few more degrees of warming over the next several decades is inevitable. Moving habitation away from sensitive coastal sites, such as New Orleans, Miami, and New York City, would be a start. Limiting family size would help future families cope with the costs they will incur as property is damaged, food becomes more expensive, and medical costs rise to deal with the health consequences of heat waves and extreme storm events, which will occur with increasing frequency and severity.

The real issue is this: Nobody who has thought about what 4 or 5 or 6° C of warming will look like seriously suggests that we can adapt to that kind of future. *So we have to mitigate!* Adaptation to the warming level that we are committed to, approximately 2° C will be helpful if it can be done, but a commitment solely to adaptation runs the risk of sinking valuable resources into a strategy that is ultimately doomed, and perhaps even giving society a false sense of confidence that lulls it into avoiding the real problem.

In summary, geoengineering and reliance on adaptation, alone, are costly ways to increase risk and obtain no certain benefits. Mitigation, in contrast, is a way to certainly decrease

climate risk, to improve the environment in other ways as well, and at the same time improve economic well being. That is what my next two blogs will cover.

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MAHB Blog: <http://mahb.stanford.edu/blog/solution-denial/>